

**WRITING EQUATIONS OF LINEAR FUNCTIONS UNIT
VOCABULARY**

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|-----------------------|------------------|------------------|----------------------|
| Constant of variation | Direct variation | Inequality | Intercepts |
| Linear function | Parallel lines | Parent functions | Perpendicular lines |
| Point-Slope form | Proportion | Rate of Change | Reflection |
| Rise and run | Rotation | Slope | Slope-intercept form |
| Standard form | Transformation | Translation | |

TAKS VOCABULARY REVIEW

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|------------------|-------|---------|-----------|
| scale proportion | ratio | percent | unit rate |
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MATERIALS

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| Cornell notes | Graphing Calculators | Manipulatives |
| D2SC WS/PPTs | Laptop computer | Vocabulary flashcards/posters |
| Holt Algebra 1 Textbook & worksheets | | |

AVID and ESL Strategies

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|------------------|------------|--------------------------------|
| Think-Pair-Share | 4 Corners | Expert/Consultant |
| Carousel | KWL | Frayer/Venn diagrams |
| Quick Write | Quick Work | Marzano's 6 Steps - Vocabulary |

TECHNOLOGY

Reminder: Students will bring laptops to class.

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|---------------|-------------------------------------|
| Gizmos | On-line TEKS Related Games |
| Interventions | Assessments Understanding Math |

SPIRALING & TAKS

Equations, proportions, ratios and percents through warm-ups.

4th PERIOD(as time allows in other periods)

Create Word Walls; practice on Graphing Calculator; Understanding Math.

Previous vocabulary:

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|-----------|----------------|------------------|--------------|-----------------|
| x-axis | horizontal | input | domain | dependent |
| y-axis | vertical | output | range | independent |
| pattern | relation | function rule | | correlation |
| rate | rate of change | slope | variation | variable |
| positive | negative | increasing | decreasing | constant |
| quadrants | scatterplot | coordinate plane | | no relationship |
| intercept | intersection | solution | continuous | discrete |
| point | origin | (x , y) | ordered pair | coordinates |

Monday, November 16, 2009**Parent Functions****Domain/Range; Independent/Dependent Variables; Identifying Functions from Ordered Pairs, Mapping Diagrams, Tables, Graphs and Functions**
TEKS: A.5.C**Warm-Up:** TAKS prep questions or Holt warm-up 5-1 (teacher's choice)**Engage:** YouTube video re: 'who's my daddy?' draws students into activity regarding the meaning of parent functions.**Objective:**

Linear Functions & Parent Functions: The student will graph and identify various parent functions. The student will recognize $y = x$ as the linear function, $y = x^2$ as the quadratic function and predict the changes in the graph given various changes to the parent equation. The student will learn the names of the different parent functions along with the meaning of "parent" as used in mathematics. The major parent functions in algebra I include (but not limited to) linear, quadratic, exponential and cubic. The student will be able to identify a Linear Function from multiple representations.

Explore: One at a time, give the students 3 parent functions to graph on their calculator ($y=x$, $y=x^2$, $y=x^3$.) Ask the students to describe which function goes with which graph. Have the students graph $y=2x^2$, and $y=x^2+3$, ask them to guess which of the parent functions is the parent to these 2 graphs. Continue in the same way for the remaining parent functions (out of order).

Explain: Discuss linear versus quadratic functions. Teacher will introduce new vocabulary words for the unit. Holt 5-1 handouts, notes, and Problem Solving.

Elaborate: Students will be able to create vocabulary posters for the Word Wall on their own time, giving the term, definition, example, and decorating the poster for an informative, attractive poster.

Evaluate: Teacher will monitor and check for understanding by informally assessing during the class period. Students will complete Holt 5-1 Problem Solving for homework.

Tuesday, November 17, 2009

SLOPE FORMULA w/ meaning of Slope and Intercepts
TEKS A.6A

Warm-Up: TAKS prep questions or Holt warm-up 5-3 (teacher's choice)

Engage: Graphing on the floor exercise. Students will participate in small groups and form a human graph on the floor (which is taped off in a coordinate plane graph), and make connections to the position on the graph and how it relates to slope as a rate of change.

Objective: The student will understand slope as a rate of change in a linear function and be able to apply the slope formula from a variety of representations.

Explore: Students will work in pairs or small groups (3 or 4) to determine how to find slope as a rate of change in "y" over (per) change in "x". Students will discover why slope is positive or negative on a graph.

Explain: Discovery task for the students; teacher will help to guide pairs or groups who may need an explanation. The teacher will use the Socratic Method to draw out conclusions and their applications from the students. D2SC or Holt ppt is optional. Teacher will explain the slope formula and relate "rise" over "run".

Elaborate: The students work the same problems for a few minutes and then compare their work with that of their classmates.

Evaluate: Students will complete Slope worksheet for homework. Teacher will informally assess throughout the class period and assess homework for mastery.

Materials: D2SC Kuta WS: "Slope"

D2SC "Slope WS"

Holt 5-3 practice A, B, or C, Reading Strategies/Success for ELL, Problem Solving

Wednesday & Thursday, November 18 & 19, 2009**Point-Slope Form and Intercepts**

Warm-up: TAKS prep questions or Holt warm-up 5-2/ 5-3 (teacher's choice)

Engage: Use the human graph on the floor to get a group of students to represent points. Students will discover the meaning of x-intercept and y-intercept by identifying each of these by who is standing on the point on the graph represented by each.

Objective: Students will be able to determine y-intercept and the x-intercept from a graph or a table and relate it to the standard form of a linear equation.

Explore: Interpreting linear graphs ppt (D2SC) and notesheet with accompanying WS. Students will work in pairs or groups of 3 to 4 and explore the meaning of slopes and intercepts. Holt Technology Lab 5-2: Students will use graphing calculators and discover how to find intercepts, using $y=$, and table.

Explain: Discovery task for the students; teacher will help to guide pairs or groups who may need an explanation. The teacher will use the Socratic Method to draw out conclusions and their applications from the students. D2SC or Holt ppt is optional. Teacher will explain Intercepts (with D2SC ppt.) and give examples from D2SC Intercepts WS.

Elaborate: Students will continue to work and Think/Pair/Share their findings.

Evaluate: After working problems individually, students will collaborate with their partner to evaluate accuracy. Teacher will direct class discussion to assess and guide correct understanding. D2SC 'Intercepts WS' will be assigned for homework.

Materials:

Holt 5-2 practice A, B, or C, Reading Strategies/Success for ELL, Problem Solving

Holt TECH LAB 5-2

D2SC: Intercepts WS; Interpreting Linear Graphs WS

Answer key for TECH LAB 5-2:

1. y-intcpt: 8; x-intcpt: 2 2. y-intcpt: -15; x-intcpt: 5 3. y-intcpt: 5; x-intcpt: 25 4. y-intcpt: -4; x-intcpt: -2

Friday, November 20, 2009

The meaning of slopes and intercepts
TEKS A.6.A

Warm-Up: TAKS prep

Engage: N/A

Objective: Students will continue to explore and make connections interpreting linear graphs, connecting slope to rates of change, and be able to indicate slope correctly from a variety of representations: graphs, tables, word problems, and using the graphing calculator.

Explore: Students will engage in Gizmo Slope activity and complete accompanying exploration guide.

Elaborate: N/A

Explain: Teacher will demonstrate the gizmo and help students begin. Teachers will guide students working individually or in pairs as they complete the discovery activity. D2SC Direct Variation ppt and WS and Holt 5-5 may be used,

Evaluate: Students will complete Exploration Guide and short assessment at the end of the Gizmo. Teacher will walk around the room to assess understanding informally and explain as needed.